

# KingAdd<sup>®</sup> PT50

Free flow non-shrink grout additive for post tensioned cables.

## DESCRIPTION

KingAdd PT50 is a pre-packed powder consisting of selected admixtures and expansive material. The addition of Flo- Add C to grout mixes produces a high flow, non-shrink, and non-segregated grout. KingAdd PT50 reduces the water demand at the desired flow, producing high strength grout with low permeability and excellent bond to steel. The low permeability grout produced with the aid of Flo- Add C will reduce the ingress of harmful agents and will protect the cables from corrosion.

## APPLICATIONS

KingAdd PT50 is ideally designed for free flow grouting in post tensioned cables used in bridges, deck ducts, etc. It is also suitable for use in cable ducts and pre-stressed structural elements.

## ADVANTAGES

- ☐ Will produce a non-shrink grout which is compensated for shrinkage and settlement in the plastic stage.
- ☐ Will produce a high flow grout without water bleeding.
- ☐ Will produce an extremely low permeability grout at low water to cement ratio.
- ☐ Reduces the ingress of harmful substances.
- ☐ High bond to steel.
- ☐ High initial and ultimate strength.
- ☐ Chloride free.

## STANDARDS

The use of KingAdd PT50 enables grout mixes to comply with ASTM C1107, Type A.

## METHOD OF USE

- ☐ Sufficient materials should be available on site to ensure continuous grouting.
- ☐ Cables should be carefully cleaned prior to grouting.
- ☐ Cable anchorage should be sealed prior to duct grouting.

## Mixing

- ☐ To ensure proper mixing, a mechanically powered mixer or drill fitted with suitable paddle should be used.

## TECHNICAL PROPERTIES

Colour:	Grey
Compressive strength: ASTM C109/109M-11	≥ 20 MPa @ 1 day ≥ 50 MPa @ 7 days ≥ 60 MPa @ 28 days
Expansion characteristics: ASTM C827/C827M-10	Up to 4%
Flow characteristics: ASTM C939-87 within 30 min from mixing. Re-mixing is needed to keep the needed flow	< 32 sec
Bleeding: ASTM C940	Pass, no bleeding
Addition rate:	6 kg KingAdd PT50 : 100 kg cement: 35 ± 2 litre clean water (variable depending on cement type and source)
Fresh wet density:	2.1 ± 0.1 g/cm <sup>3</sup>
Initial setting time: ASTM C191	3 - 4 hr
VOC:	10 g/ltr

*Note: The results were obtained when OPC (complies with ASTM C150-02a with compressive strength @ 28 days > 42.5 MPa) is used. Higher compressive strength results can be achieved when OPC > 52.5 MPa is used. Where added water needs to be adjusted based on the mentioned range. It is important to conduct trials so as to choose the best source of OPC for the needed application. Compressive strength @ 1 day is under restrain. Compressive strength @ 7 & 28 days is under wet cure.*

- ☐ While mixing, 6 kg of KingAdd PT50 should be added to 35 ± 2 liter of water, then slowly add the cement and mix continuously for 5 minutes until a uniform consistency is obtained.

## PLACING AND FINISHING

In case of pumping, a suitable diaphragm pump must be used (screw and piston pump may also be suitable). The mixed grout should be pumped from one point only to eliminate air entrapment.

The mixed grout should be pumped within 30 minutes of mixing.



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## CURING

Self-curing, only exposed areas should be properly cured with water.

## CLEANING

All tools should be cleaned immediately after application using fresh water. Hardened materials should be cleaned mechanically.

## PACKAGING

KingAdd PT50 is available in 6 kg bags.

## YIELD

Approximately 68 litre of mixed grout is obtained when mixing 6 kg KingAdd PT50, 100 kg cement and 34 liter water.

## STORAGE

Shelf life is 1 year when stored under cover, out of direct sunlight and protected from extremes of temperature.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult KingKrete's Technical Services Department.

## HEALTH AND SAFETY

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Reseal containers after use. Use in well ventilated areas and avoid inhalation.

## NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local KingKrete representative.

KingKrete Inc. reserves the right to have the true cause of any difficulty determined by accepted test methods.

## QUALITY AND CARE

All products originating from KingKrete's Qatar facility are manufactured under a management system independently certified to conform to the requirements of the quality standard ISO 9001.

\* Properties listed are based on laboratory-controlled tests.

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## KingKrete-Qatar/KingAdd\_PT50\_02/v2/07\_18

### STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this KingKrete Inc. publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

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